

REMARKS

Claims 1-7 remain pending after amendment.

Claim Amendments

New claim 7 is added, which combines the limitations of claims 2-5. Claim 3 is amended to recite that the applicable test standard is JIS 2235-5.4 consistent with the disclosure at page 10, lines 16-17. No new matter is added by this amendment.

Specification Amendments

Page 10 of the specification is amended to recite the test conditions of the standard test JIS 2235-5.4. JIS 2235-5.4 is a known standard test having known test procedures. The incorporation of the applicable test procedures at page 10 is accordingly appropriate, and does not constitute new matter.

Objection to Specification

The Examiner questions the clarity of the reference to JIS 2235-5.4 at page 10 of the specification. In response, page 10 is amended in an attempt to overcome the objection. The objection is thus believed to be moot, and should be withdrawn.

Rejection under 35 USC 112 (paragraph two)

Claim 3 stands rejected under 35 USC 112 (paragraph two) as not distinctly claiming the invention. This rejection is

respectfully traversed.

In response, claim 3 is amended to clarify the basis for the recited limitation.

The rejection is thus without basis and should be withdrawn.

**The Claimed Invention**

By way of review, the claimed invention comprises an electrophotographic negatively charged full color toner comprising at least a colorant, a releasing agent and a binder resin, the releasing agent being a mixture of carnauba wax and nonpolar paraffin wax, wherein the binder resin contains a polyester resin having an acid value of 7 to 20 mg KOH/g.

The claimed invention exhibits a wide fixing region even in a color toner which uses a resin of low molecular weight in an oil-less fixing system. Further, an exuding effect is maintained from low to high temperatures while maintaining excellent physical properties.

The claimed invention is neither disclosed nor suggested by the cited prior art.

**Rejection of Claims 1, 2 and 4-6 under 35 USC 103(a)**

Claims 1, 2 and 4-6 stand rejected under 35 USC 103(a) as being unpatentable over JP '338 in view of Diamond. This rejection is respectfully traversed.

In support of the rejection, the Examiner states "The combination of the two disclosed waxes to form a mixture of these

waxes when both are taught as effective would have been *prima facie* obvious given the reasoning of *Kerkoven*."

The combination of a non-polar paraffin wax and a carnauba wax is not taught by the cited prior art as recognized by the Examiner. The JP '338 reference instead teaches the use of each separately, but not expressly as a mixture within the composition. As noted above, the Examiner ignores this deficiency, taking the position that the teaching of the use of each separately renders obvious the use of both at the same time.

As stated at page 5 of the specification, the presence of a wax provides two functions. One is to provide an anchoring effect of exuding from the resin already at a low temperature while strengthening the adhesion with paper at low temperature, thus preventing low temperature offset. An effect is also provided whereby the wax covers the surface of the fixing roller by exudation at high temperature and intrudes between the toner and the fixing roller to lower the deposition between the toner and the fixing roller, thereby preventing high temperature offset.

In the present invention, such effects are advantageously provided by the presence of a mixture of waxes, i.e., a nonpolar paraffin wax and carnauba wax. A toner is thus provided using a low molecular weight resin with an excellent anchoring effect at low temperature and a sufficient effect of preventing high temperature offset.

The above advantages are attributable to the non-polar paraffin wax of less compatibility which exudes at a low

temperature, with carnauba wax maintaining exuding effect at the high temperature region. Further, the use of the mixture of waxes provides benefits not achievable upon use of either wax individually.

When the mixture of waxes is used, compatibility with the resin is optimized, and no large lumps of wax are formed as a result of uneven dispersion.

In this regard, applicant presents in the instant specification examples confirming the advantages that result from the combined use of the recited waxes, and the Examiner's attention is directed thereto.

Examples 1-12 include a polyester resin having an acid value within the recited range of 7-20, and the recited mixture of waxes. Each of the toners of Examples 1-12 exhibits satisfactory physical properties (see Table 2 at page 14 of the specification).

By contrast, the toner compositions of Comparative Examples 1-10 fail to exhibit satisfactory physical properties. The acid value of Comparative Examples 1 and 2 falls outside of the claimed range. The DSC peak temperature of Comparative Examples 3 and 4 is outside of the preferred range. The melt temperature of Comparative Example 5 is outside of the preferred range. The mixing ratio of the waxes in Comparative Examples 7 and 8 is outside of the preferred range of 70:30 to 30:70. In Comparative Examples 9 and 10, the wax content is outside of the preferred wax content. When the respective limitations of the Comparative

Examples fall outside of applicant's preferred ranges, unsatisfactory results are achieved.

It is thus clear, that in order to obtain the satisfactory results of the present invention, one of ordinary skill in the art would be required to modify the cited prior art in a manner that is not otherwise suggested thereby. Clearly, the position of the Examiner that, given a teaching of the use of the respective waxes separately that the combined use would be obvious, is without basis. This is particularly true given the fact that the advantages of the present invention are not solely dependent upon the presence of the two waxes together, but also result from the other aspects of the present invention as confirmed by the Examples.

The remaining reference is merely relied upon to teach the use of a charge control additive. The reference otherwise fails to address the above deficiencies of the JP '338 reference.

The rejection is thus without basis and should be withdrawn.

**Rejection of Claims 1, 4 and 5 under 35 USC 102(b)**

Claims 1, 4 and 5 stand rejected under 35 USC 102(b) as being anticipated by JP '642. This rejection is respectfully traversed.

In response, applicant notes that the reference teaches the use of carnauba wax together with a polyester resin. However, the reference does not expressly teach the combination of a carnauba wax and a nonpolar paraffin wax, particularly together

with a negatively-charged full color toner as claimed. It is noted in this regard that negatively- and neutral-charged toners are taught by the reference. Given the myriad of combinations of components taught by the reference, it is improper for the Examiner to take the position that the reference teaches a toner composition which meets each and every limitation of the rejected claims.

The rejection is thus without basis and should be withdrawn.

**Rejection of Claims 1, 2 and 4-6 under 35 USC 103(a)**

Claims 1, 2 and 4-6 stand rejected under 35 USC 103(a) as being unpatentable over JP '642. This rejection is respectfully traversed.

As noted above, the cited reference does not expressly teach or suggest the combination of waxes employed in the claimed invention. More particularly, the reference does not teach or suggest the combination of such waxes in a toner composition having the requisite physical properties recited in the claims.

As also discussed with respect to the other rejection under 35 USC 103(a) above, the recited physical properties (as demonstrated in the instant Examples) enable highly desirable results to be achieved not otherwise achievable by those toner compositions of the Comparative Examples.

Applicant accordingly takes the position that one of ordinary skill in the art, when faced with the teachings of the cited prior art, would lack the motivation or suggestion to

arrive at the claimed invention.

The rejection is without basis and should be withdrawn.

**Claim 3**

Applicant also notes that claim 3 is not rejected over the cited prior art, and should be indicated as being directed to allowable subject matter in view of the above amendments and remarks.

**Double Patenting Rejection**

Claims 1-6 further stand provisionally rejected on the ground of obviousness-type double patenting over claims 1-6 of co-pending application No. 10/805,206.

As this is a provisional rejection, no response is required at this time. Applicant will endeavor to maintain a line of distinction between the respective sets of claims.

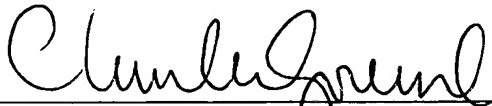
The application is accordingly believed to be in condition for allowance, and an early indication of same is earnestly solicited.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Application No. 10/805,262

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By   
Terrell C. Birch, #19,382  
P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

  
TCB/JWH/sh